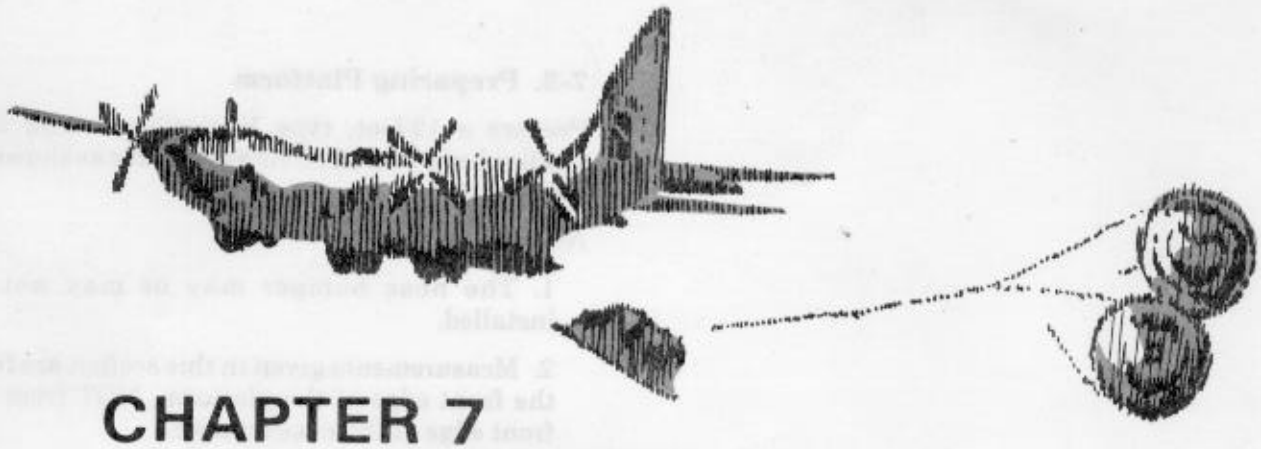


CHAPTER 7

RIGGING 1 1/2-TON TRAILER ON A TYPE V PLATFORM

Section I

LOW-VELOCITY AIRDROP

7-1. Description of Load

The 1 1/2-ton trailer, shown in Figure 7-1, is rigged on a 12-foot, type V platform for low-velocity airdrop. The trailer must be rigged with an accompanying load. The accompanying load must not weigh more than 3,000 pounds. The accompanying load shown in this section consists of 24 ammunition boxes weighing approximately 2,280 pounds. The load shown in this section requires two G-11B cargo parachutes. The trailer weighs 2,650 pounds. It is 166 1/2 inches long and 83 inches wide. Its height is 98 inches, reducible to 55 inches.

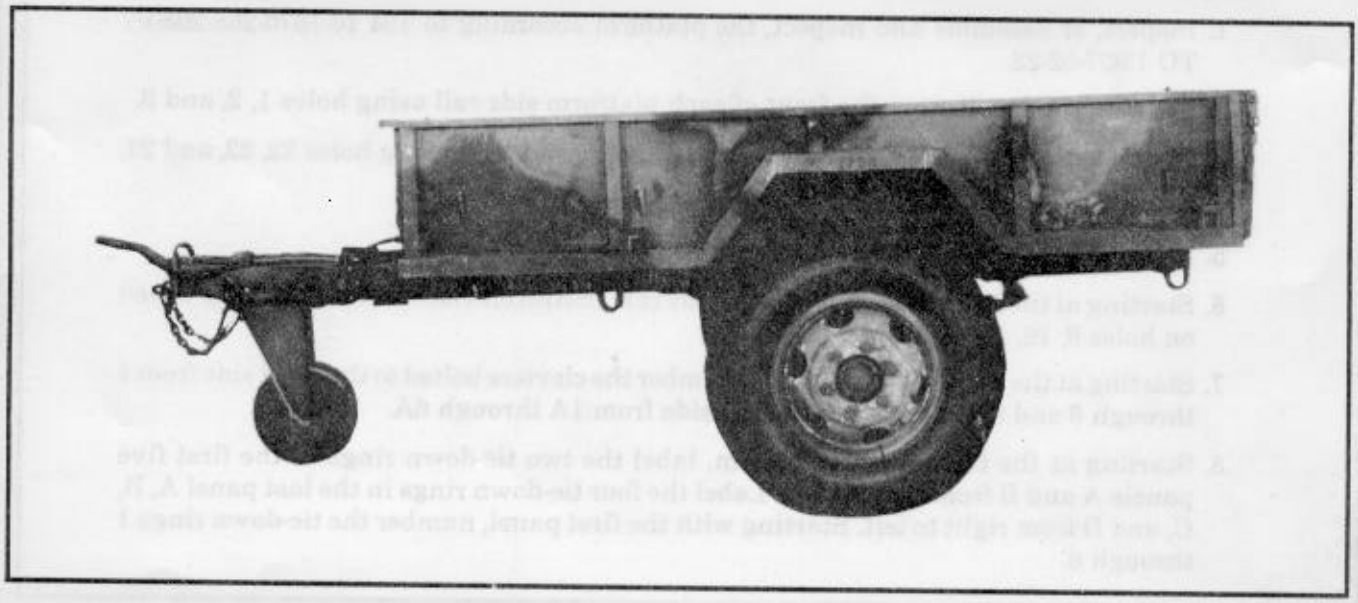


Figure 7-1. Left side of unrigged 1 1/2-ton trailer

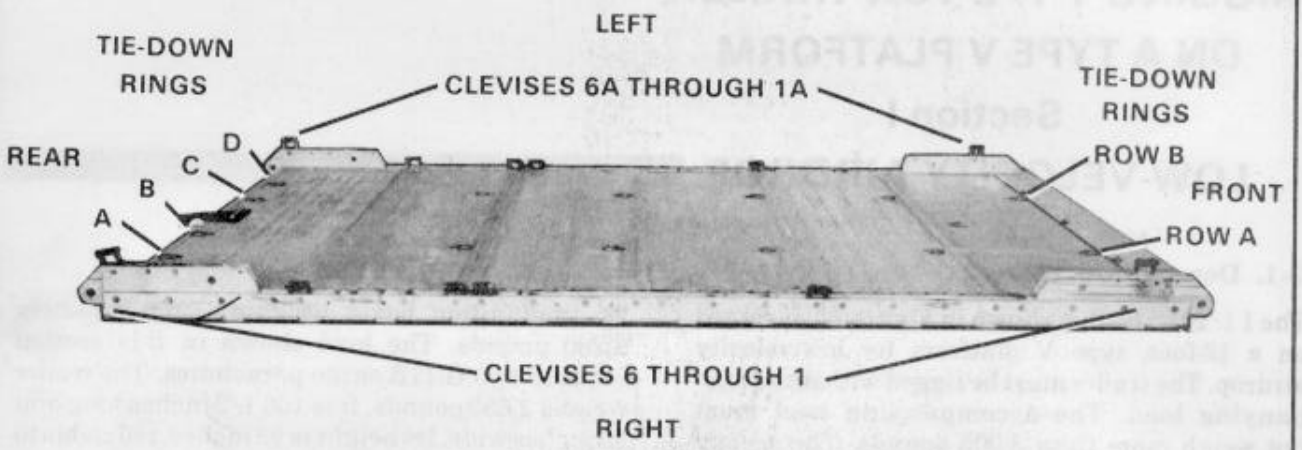
7-2. Preparing Platform

Prepare a 12-foot, type V platform using four tandem links and 12 clevis assemblies as shown in Figure 7-2.

Notes:

1. The nose bumper may or may not be installed.

2. Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.



Step:

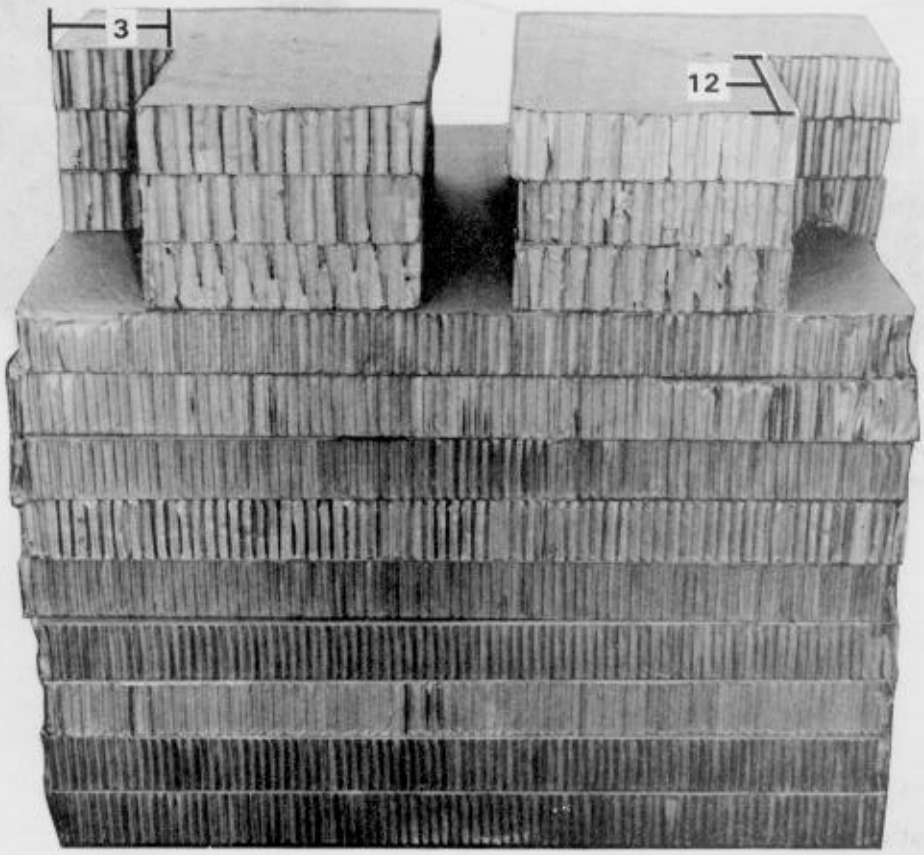
1. Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.
4. Install a clevis on bushing 2 on each front tandem link.
5. Install a clevis to bushing 4 on each rear tandem link.
6. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 9, 16, 17, and 20.
7. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 6 and those bolted to the left side from 1A through 6A.
8. Starting at the front of the platform, label the two tie-down rings in the first five panels A and B from right to left. Label the four tie-down rings in the last panel A, B, C, and D from right to left. Starting with the first panel, number the tie-down rings 1 through 6.

Figure 7-2. Platform prepared

7-3. Building and Placing Honeycomb Stacks

Build the honeycomb stacks as shown in Figures 7-3, 7-4, and 7-5. Place the honeycomb stacks on the platform as shown in Figure 7-6.

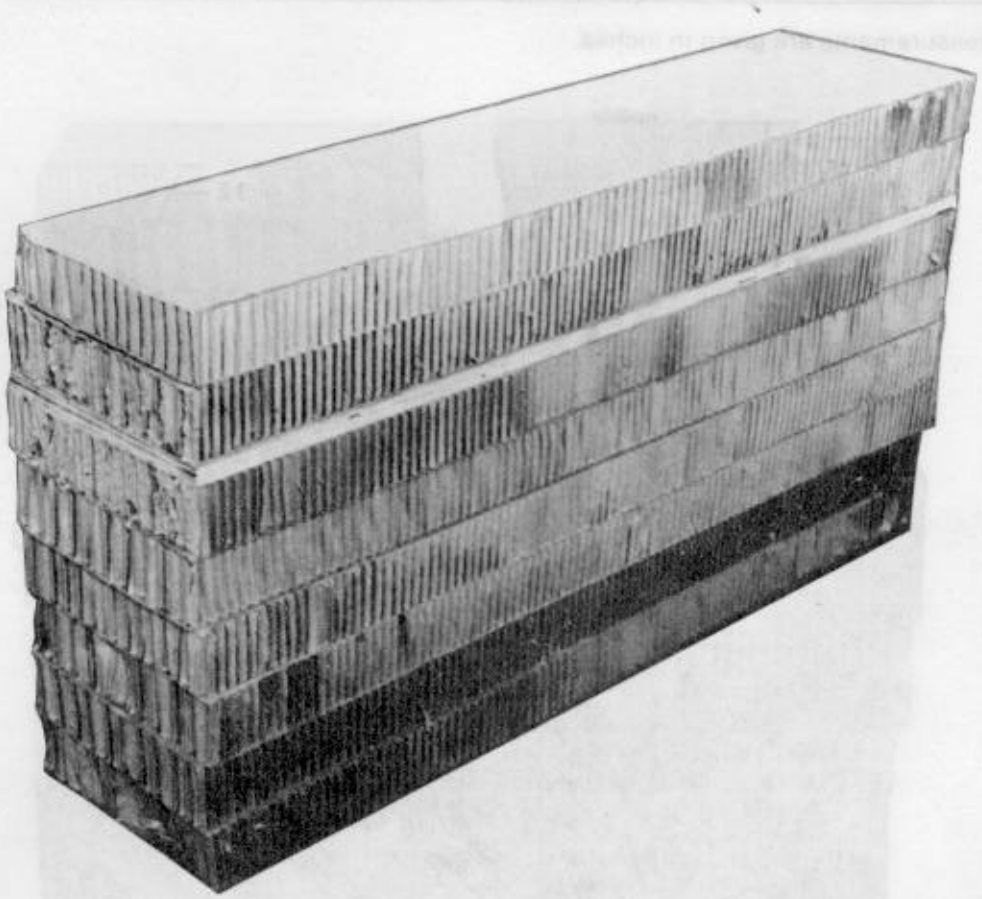
Note: All measurements are given in inches.



FRONT

Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	9 6	36 18	40 24	Honeycomb Honeycomb	Form base. Make a 3- by 12-inch cutout on each piece of honeycomb. Place three pieces on each side of the base with the cutout to the front and facing outward on the stack.

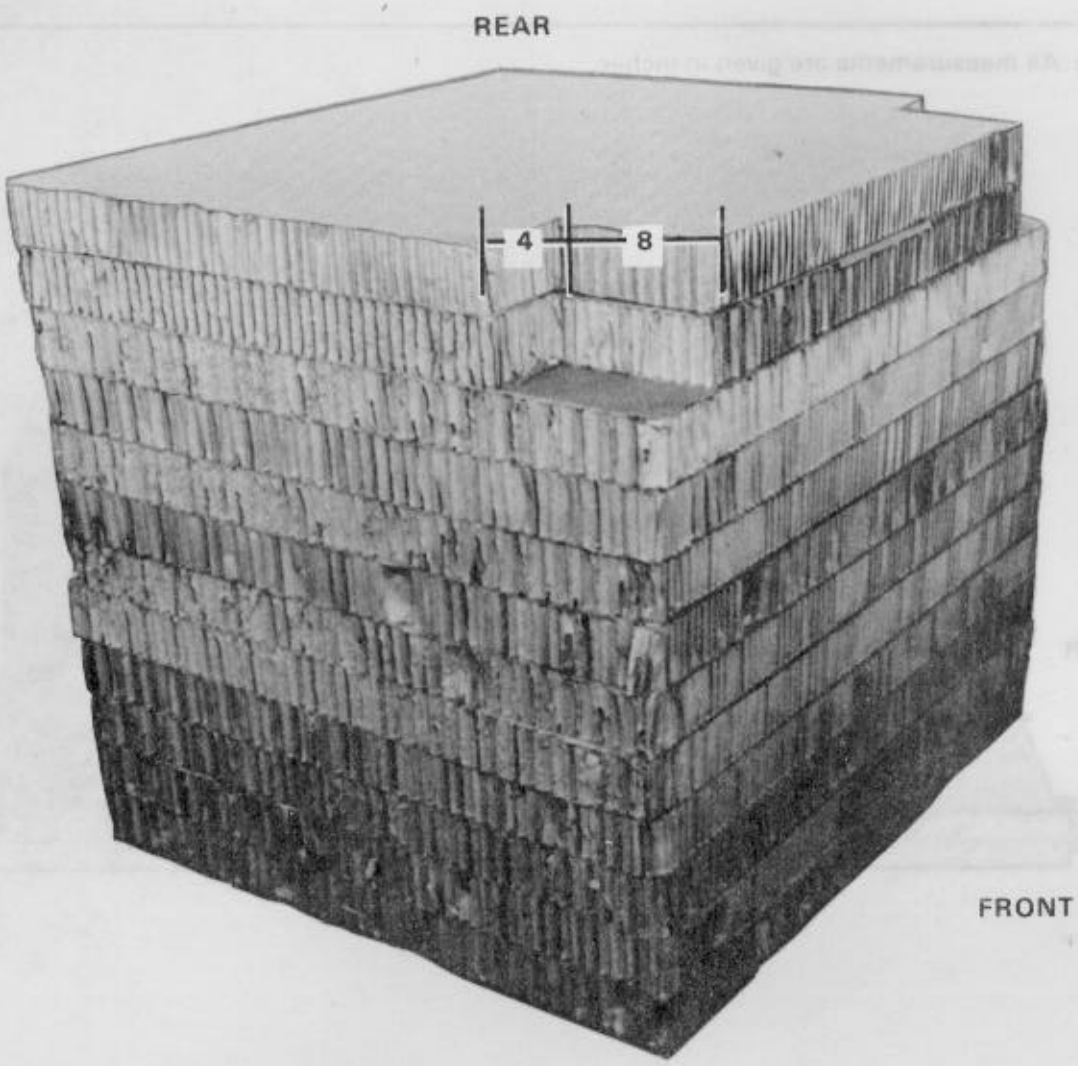
Figure 7-3. Honeycomb stack 1 prepared



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	8 1	12 12	48 48	Honeycomb 3/4-inch plywood	Form stack. Place plywood between the 6th and 7th layers.

Figure 7-4. Honeycomb stack 2 prepared

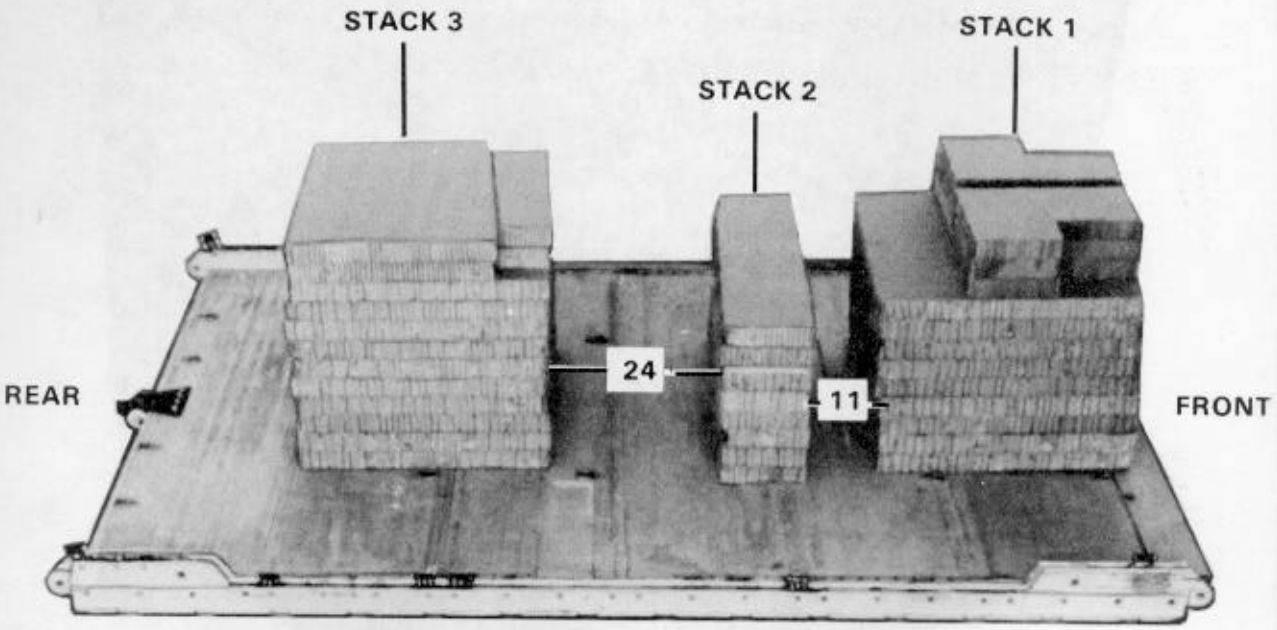
Note: All measurements are given in inches.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
3	12	36	40	Honeycomb	Form stack. Make a 4- by 8-inch cutout on each side to the front of the top two layers.

Figure 7-5. Honeycomb stack 3 prepared

Note: All measurements are given in inches.

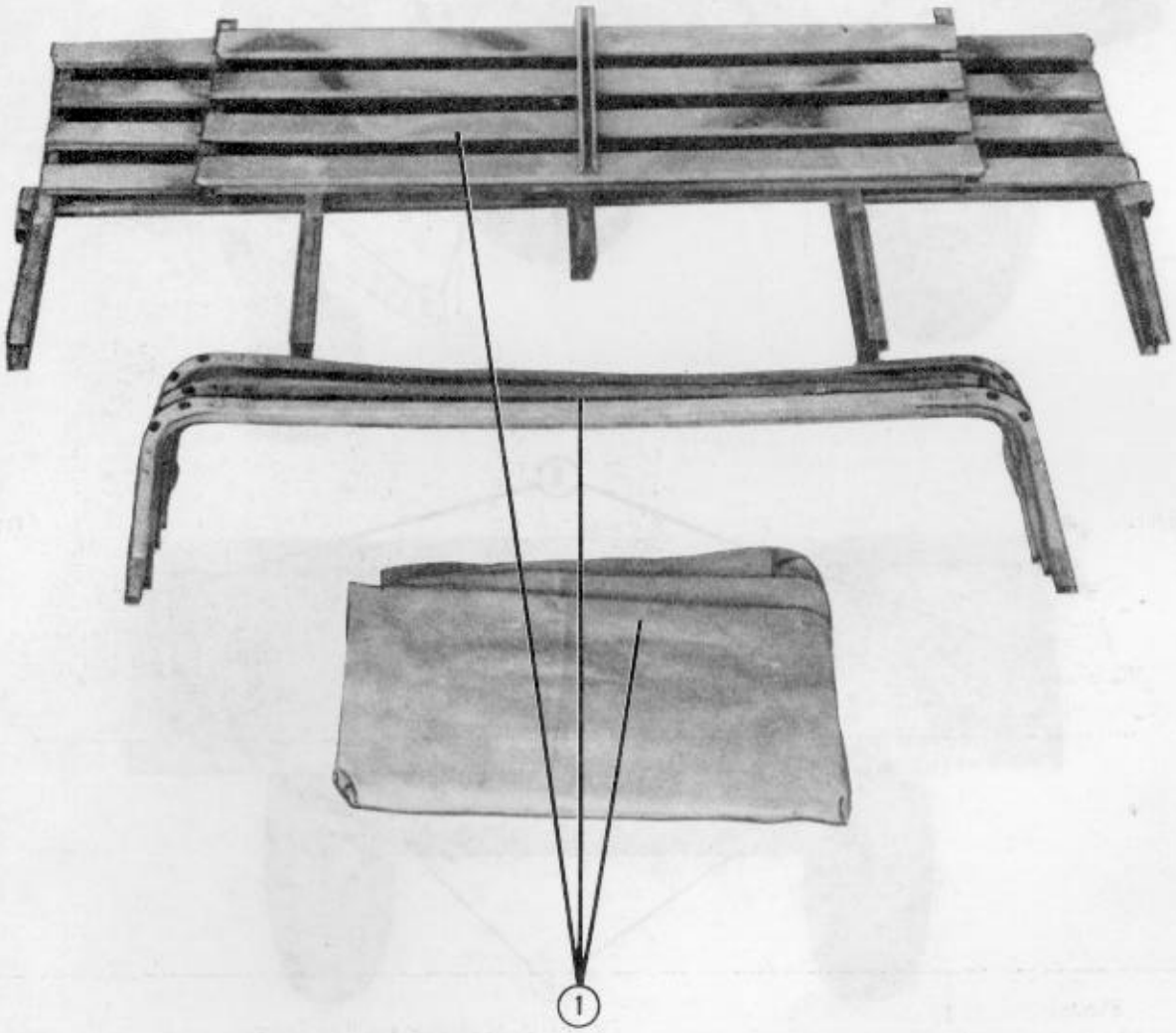


Stack Number	Position of Stack on Platform
	Place stack:
1	Centered, flush with the front edge of the platform.
2	Centered, 11 inches from the rear edge of stack 1.
3	Centered, 24 inches from the rear edge of stack 2.

Figure 7-6. Honeycomb stacks positioned on platform

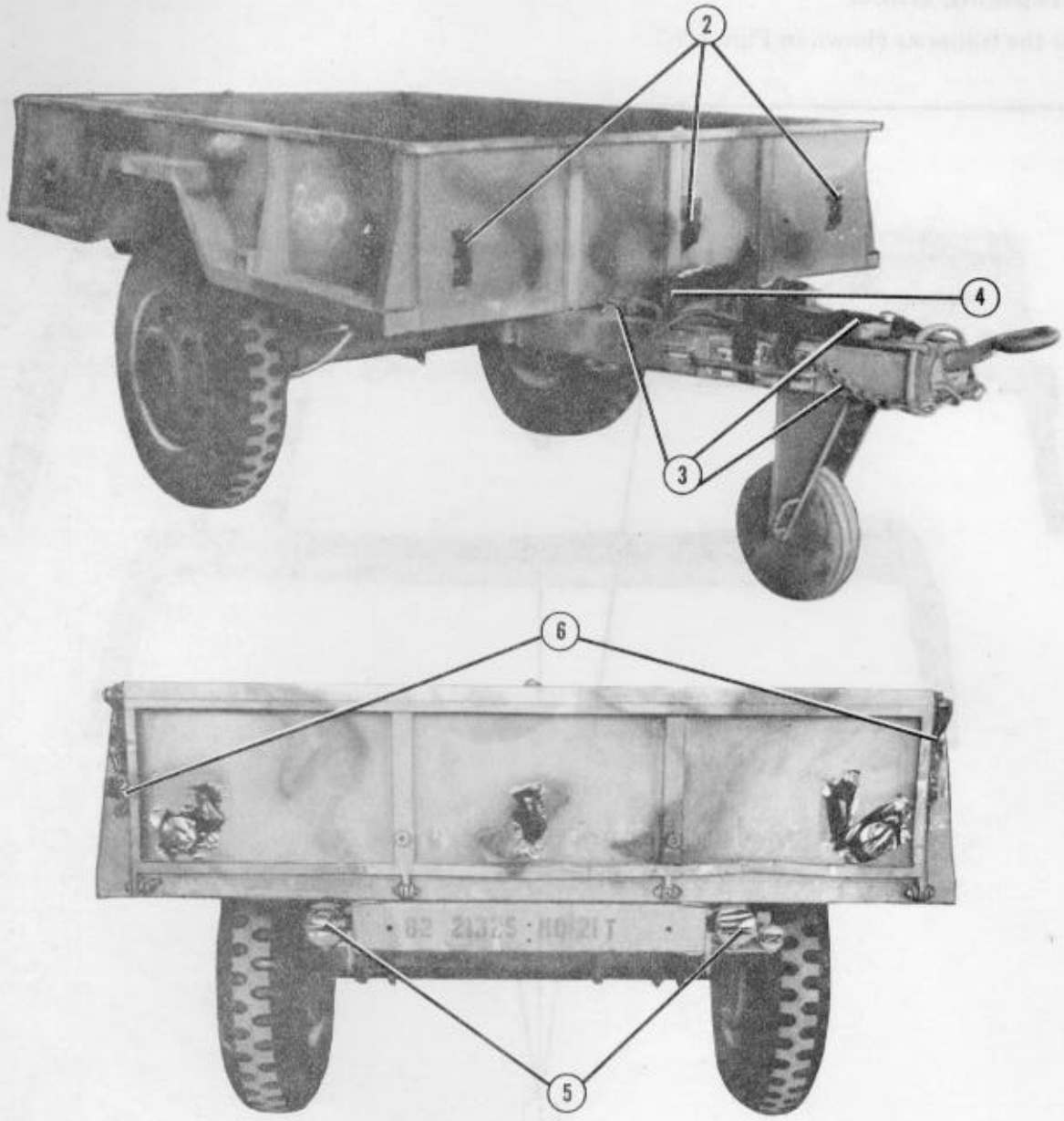
7-4. Preparing Trailer

Prepare the trailer as shown in Figure 7-7.



(1) Remove the rack assembly, bows, and paulin cover.

Figure 7-7. Trailer prepared



(2) Tape the paulin hooks.
(3) Tape the hose, safety chains, and intervehicular cable to the drawbar.
(4) Tape the hand brakes in the locked position using pressure-sensitive tape.
(5) Tape the taillights and reflectors.
(6) Tape the tailgate chains.

Figure 7-7. Trailer prepared (continued)

7-5. Stowing Accompanying Load and Trailer Components

Stow the accompanying load of 24 ammunition boxes in the trailer as shown in Figure 7-8. The accompanying load must not weigh more than 3,000 pounds and must not exceed the height of the trailer body. If the load includes a hazardous material, it must be packaged, marked, and labeled in compliance with AFR 71-4/TM 38-250. The load must comply with the restrictions and meet the requirements outlined in FM 10-500-2/TO 13C7-1-5. The accompanying load shown in these procedures is 2,280 pounds of 105-millimeter ammunition stowed in the trailer.

CAUTION

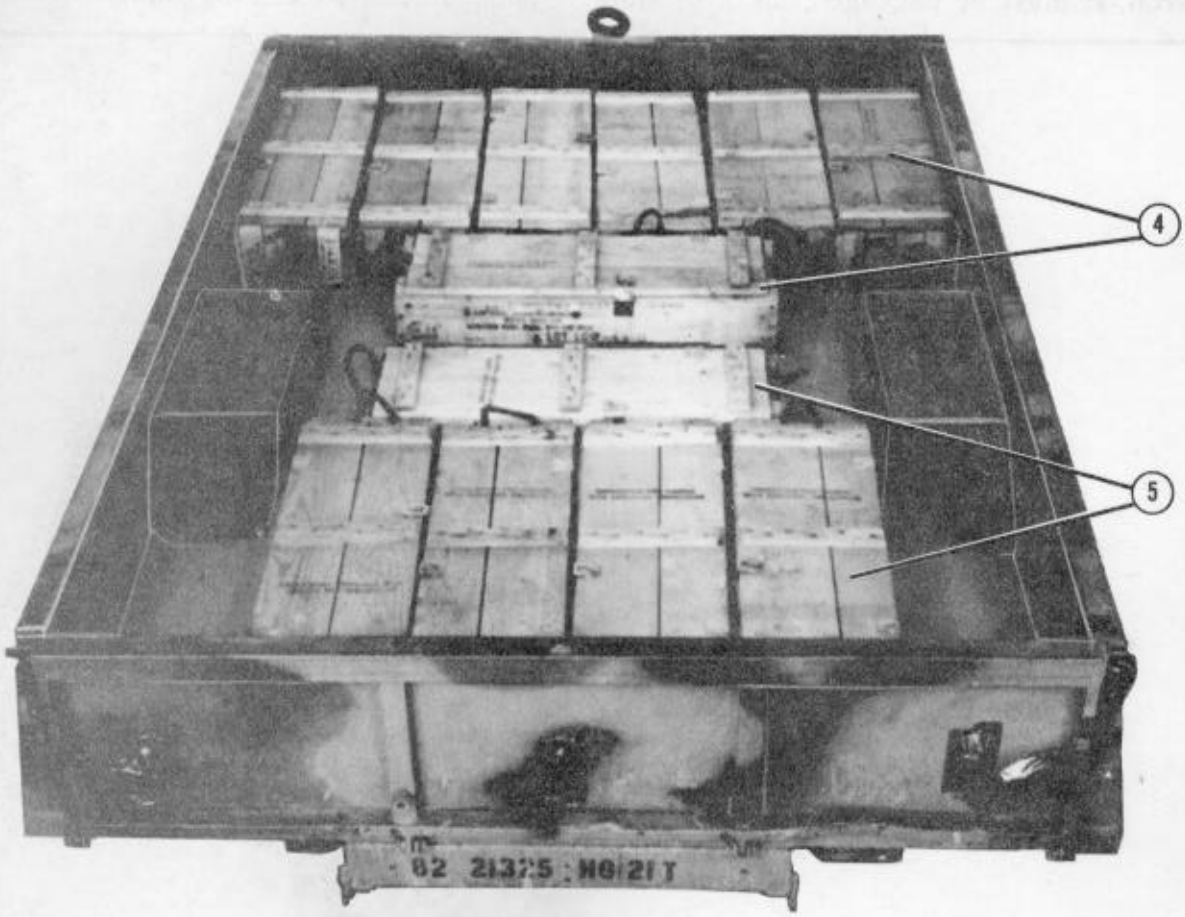
Only ammunition listed in FM 10-553/TO 13C7-18-41 may be airdropped.

(1) Place two 36- by 74-inch pieces of honeycomb in the front of the trailer.

(2) Place two 36- by 54-inch pieces of honeycomb in the center of the trailer.

(3) Make a 9- by 11-inch cutout on each side of two 36- by 74-inch pieces of honeycomb. Place the honeycomb, with the cutouts facing the front of the trailer, in the rear of the trailer.

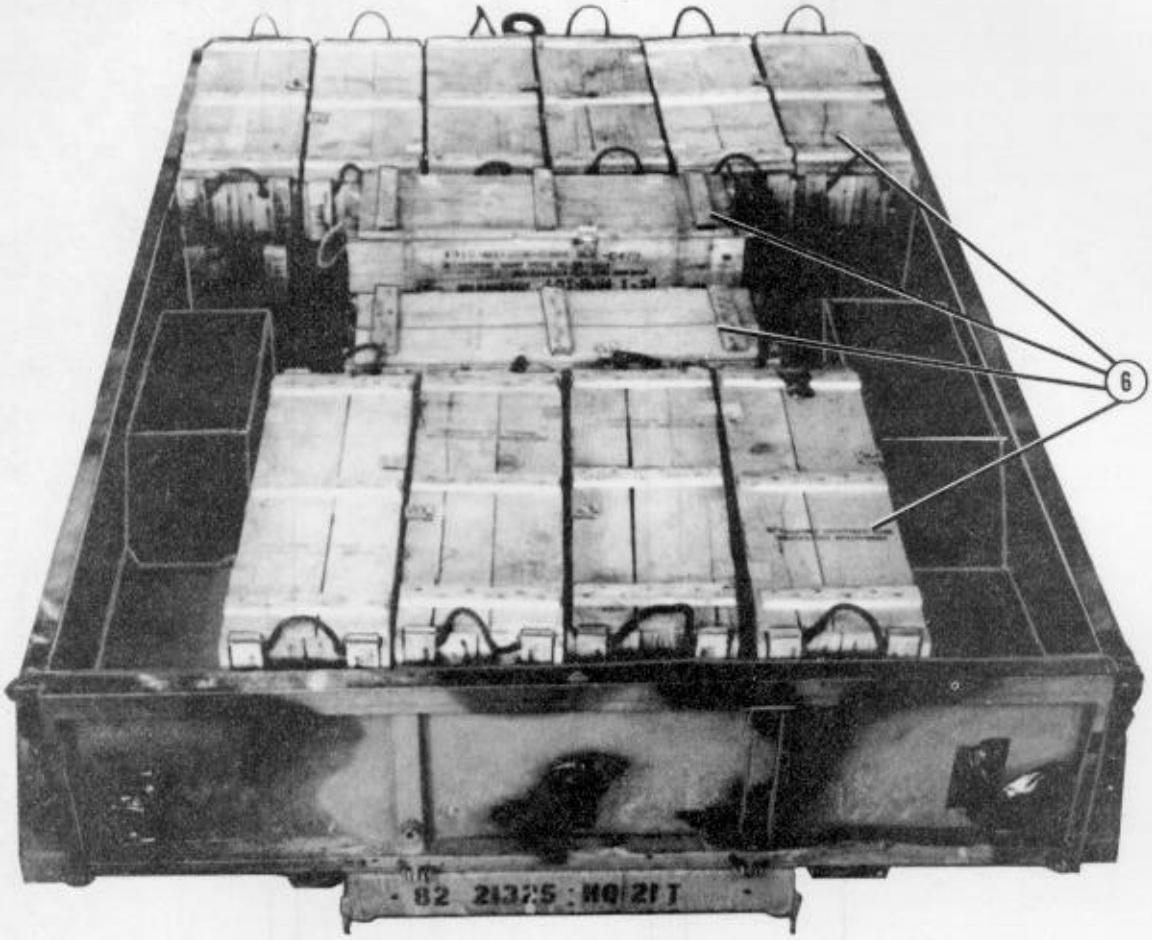
Figure 7-8. Accompanying load and trailer components stowed



(4) Place six boxes of ammunition against the front wall of the trailer. Center a seventh box of ammunition flush against the six ammunition boxes.

(5) Place four boxes of ammunition against the tailgate of the trailer. Center a fifth box of ammunition flush against the four ammunition boxes.

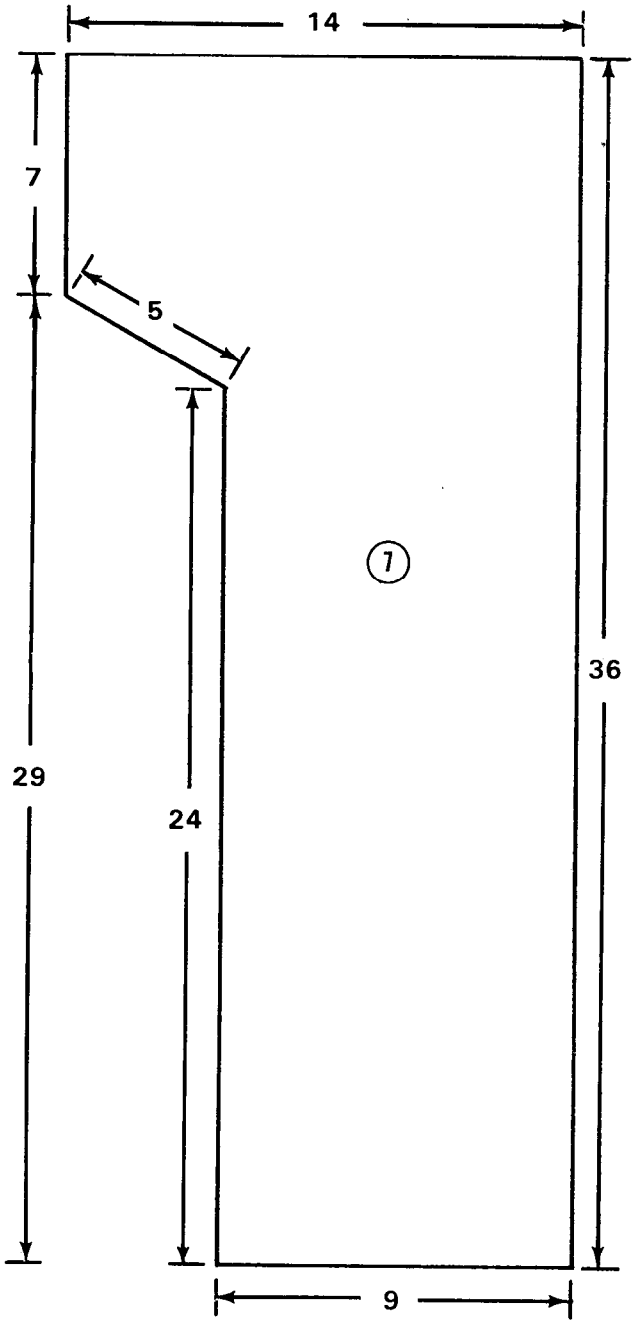
Figure 7-8. Accompanying load and trailer components stowed (continued)



(6) Place 12 additional boxes of ammunition on top of the boxes placed in steps 4 and 5.

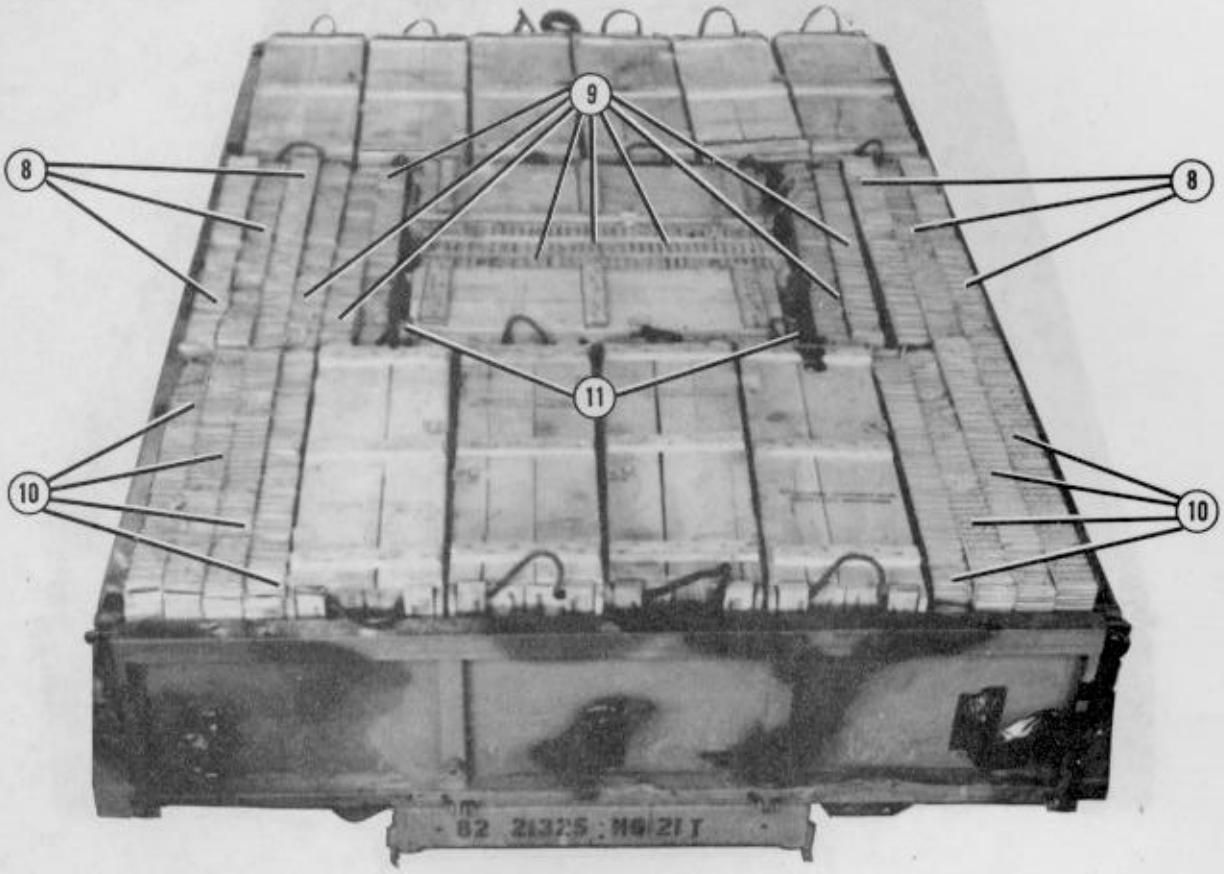
Figure 7-8. Accompanying load and trailer components stowed (continued)

Note: All measurements are given in inches.



(7) Make a 5- by 29-inch cutout as shown in six 14- by 36-inch pieces of honeycomb as shown.

Figure 7-8. Accompanying load and trailer components stowed (continued)



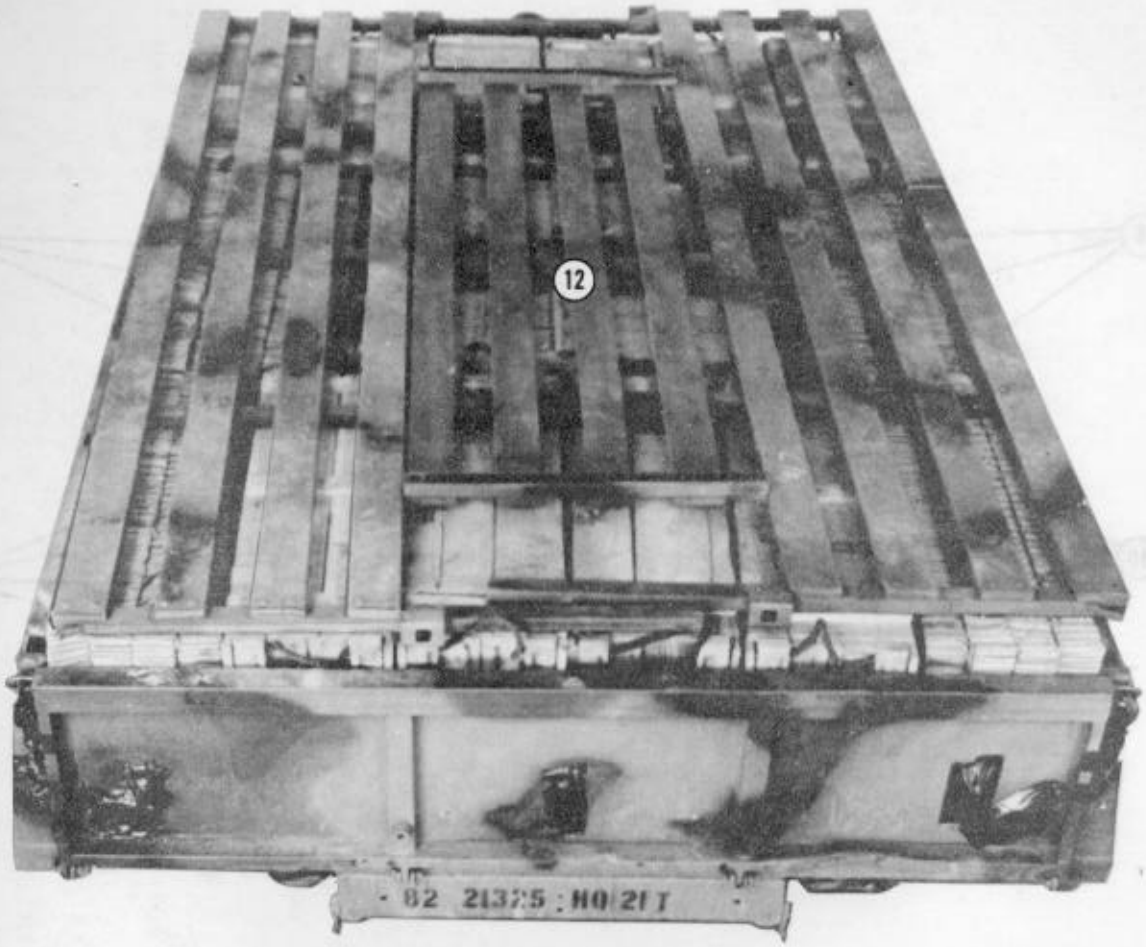
(8) Place three pieces of the honeycomb with the 5- by 29-inch cutouts over each wheel well.

(9) Place eight 36- by 14-inch pieces of honeycomb next to the honeycomb placed in step 8 and the ammunition boxes.

(10) Place four 36- by 14-inch pieces of honeycomb on each side of the rear ammunition boxes.

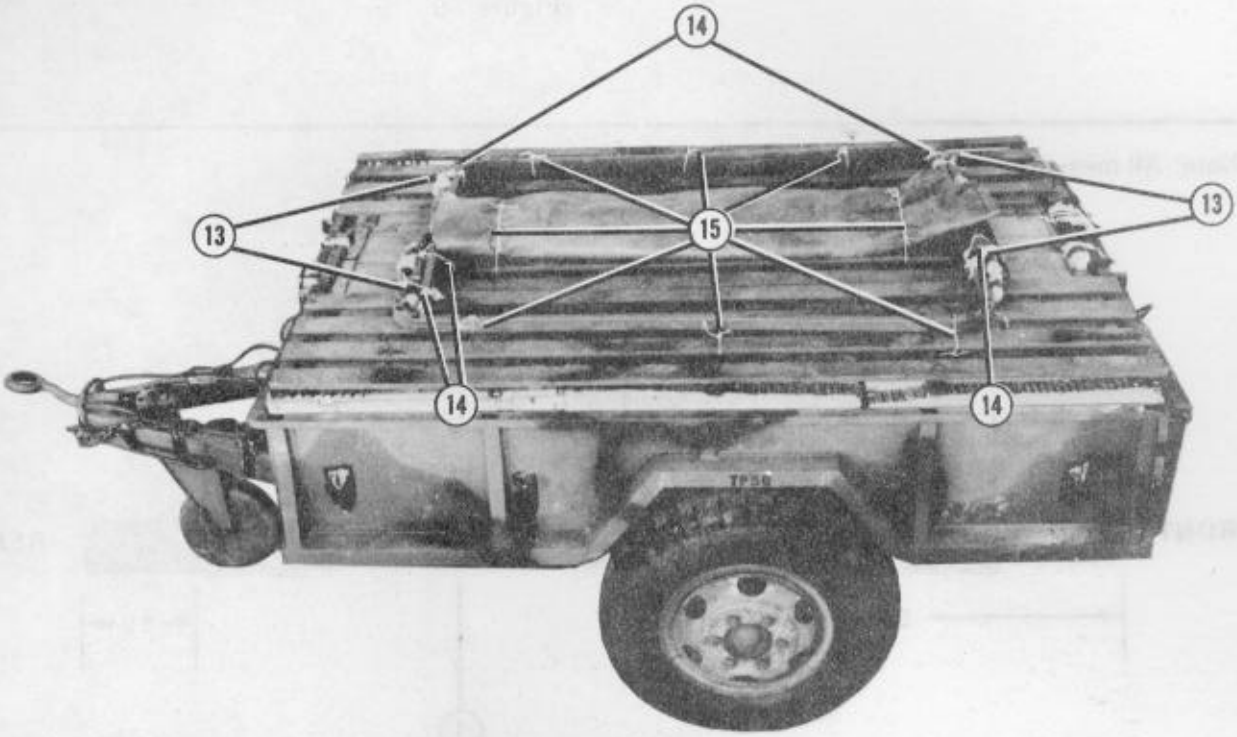
(11) Fill in open areas with honeycomb filler pieces.

Figure 7-8. Accompanying load and trailer components stowed (continued)



(12) Place the rack assembly on top of the ammunition boxes.

Figure 7-8. Accompanying load and trailer components stowed (continued)



(13) Pad all sharp areas of the rack assembly and bows with cellulose wadding. Tape the cellulose wadding in place.

(14) Tie the bows together with type III nylon cord.

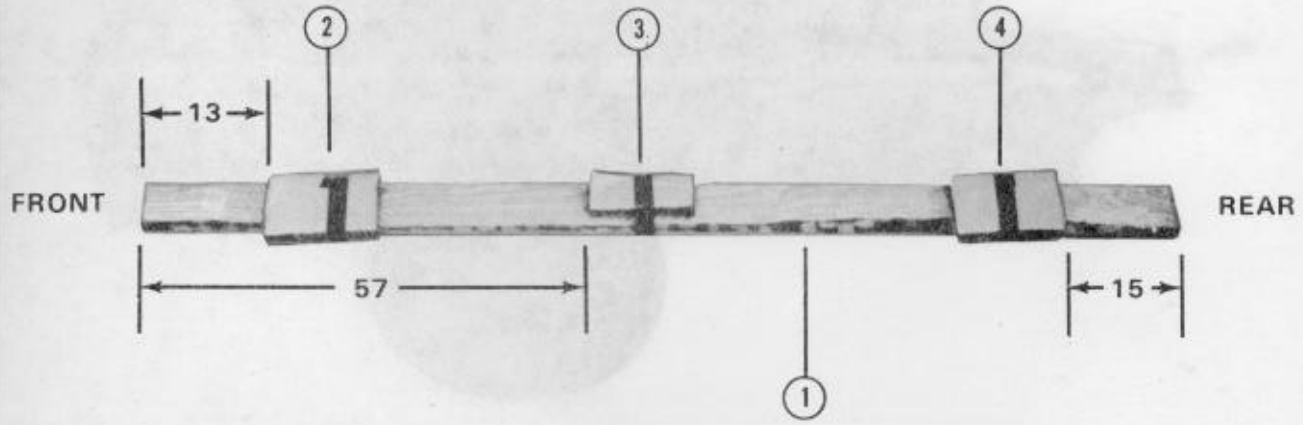
(15) Secure the bows and paulin cover to the rack assembly with type III nylon cord.

Figure 7-8. Accompanying load and trailer components stowed (continued)

7-6. Building Body Protection Boards

Build the body protection boards as shown in Figure 7-9.

Note: All measurements are given in inches.

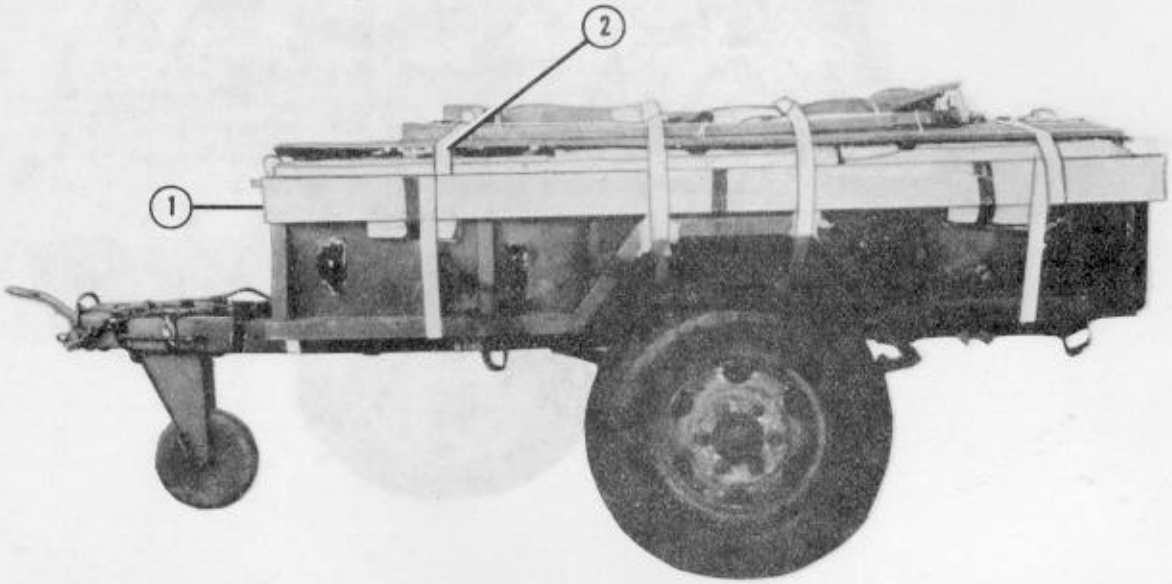


(1) Prepare two 2- by 6- by 120-inch pieces of lumber for the body protection boards.
(2) Place a 7- by 11-inch piece of honeycomb 13 inches from the front of each board.
(3) Place a 4- by 11-inch piece of honeycomb 57 inches from the front of each board.
(4) Place a 7- by 11-inch piece of honeycomb 15 inches from the rear of each board.

Figure 7-9. Body protection boards built

7-7. Lashing Body Protection Boards and Accompanying Load to Trailer

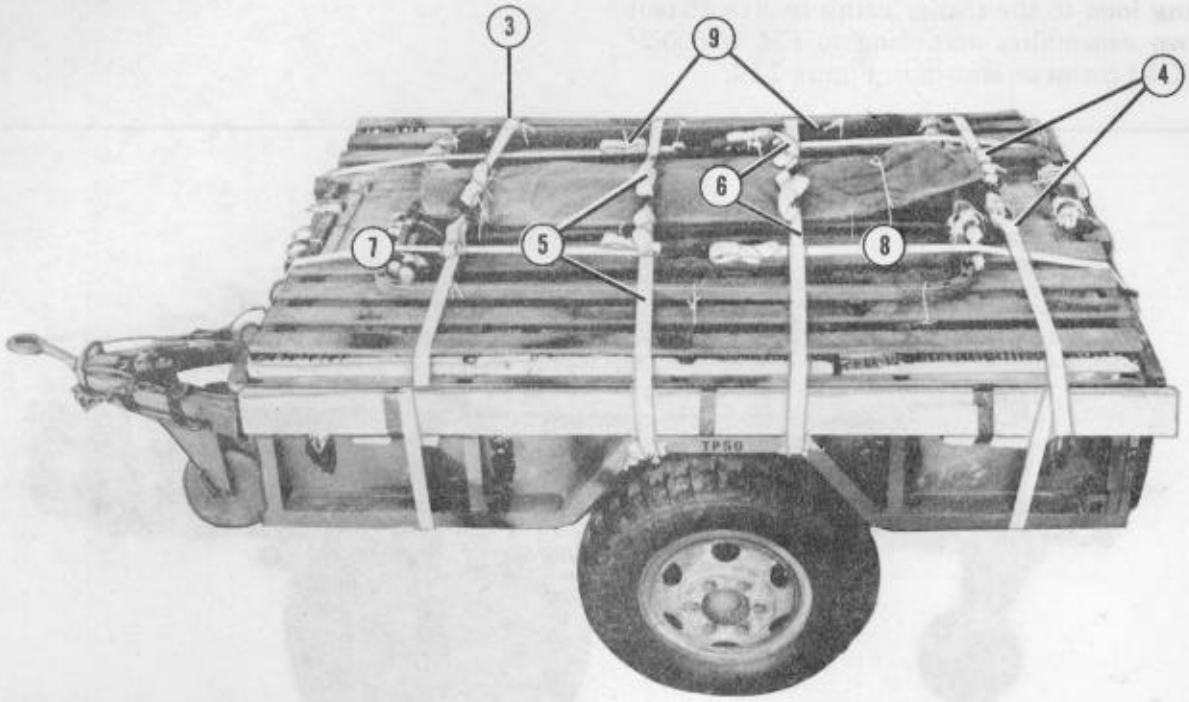
Lash the body protection boards and accompanying load to the trailer using twelve 15-foot tie-down assemblies according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-10.



(1) Place a body protection board on the left side of the trailer.

(2) Pass a 15-foot lashing around the front left frame and through its own D-ring. Pass the free end of the lashing up and around the body protection board once. Pass the free end of the lashing up and over the top of the trailer.

Figure 7-10. Body protection boards and accompanying load lashed to trailer



(3) Repeat steps 1 and 2 for the right side of the trailer. Secure the lashings in steps 2 and 3 with two D-rings and a load binder on top of the load.

(4) Pass a 15-foot lashing around the rear left frame and through its own D-ring. Pass the free end of the lashing up and around the body protection board once. Pass the free end of the lashing up and over the top of the trailer. Repeat step for the right side. Secure the lashings with two D-rings and a load binder.

(5) Repeat step 4 for the front of the wheel well. Do not wrap the lashing around the body protection board.

(6) Repeat step 4 for the rear of the wheel well. Do not wrap the lashing around the body protection board.

(7) Pass a 15-foot tie-down strap around the left drawbar and through its own D-ring. Pass the free end up and over the top of the trailer.

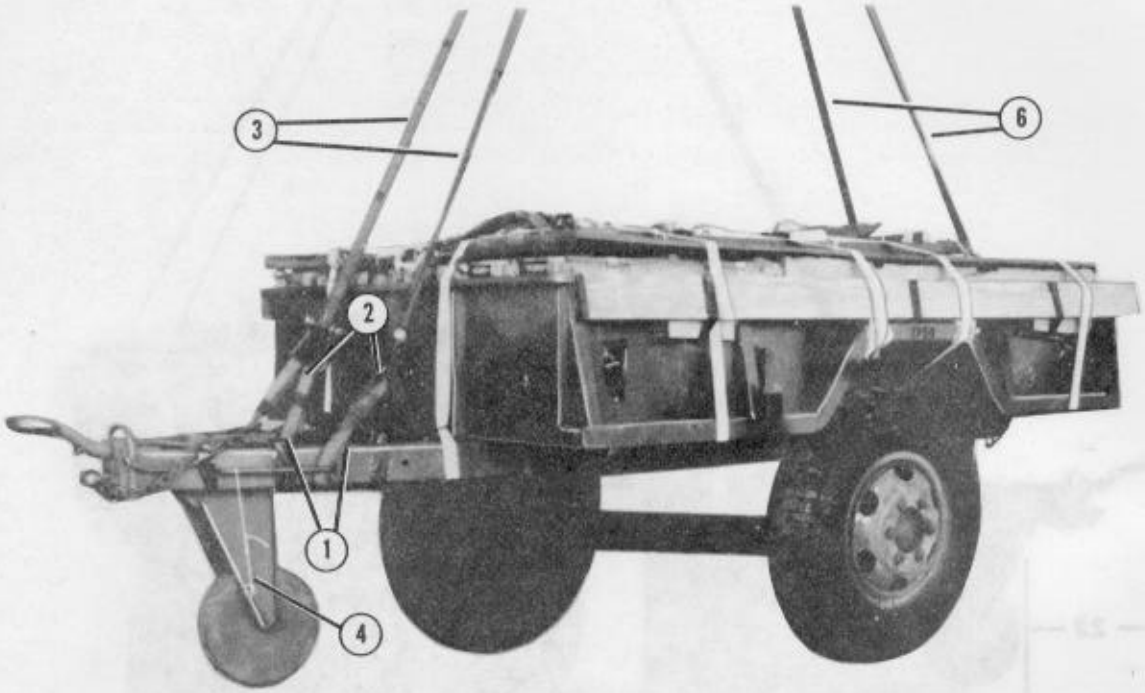
(8) Pass a 15-foot tie-down strap through the left rear tie-down provision and through its own D-ring. Pass the free end up and over the top of the trailer. Secure lashings in steps 7 and 8 with two D-rings and a load binder.

(9) Repeat steps 7 and 8 for the right side of the trailer.

Figure 7-10. Body protection boards and accompanying load lashed to trailer (continued)

7-8. Installing Lifting Slings and Positioning Trailer on Platform

Install the lifting slings using four 3-foot (2-loop), type XXVI nylon slings; two 11-foot (2-loop), type XXVI nylon slings; two 12-foot (2-loop), type XXVI nylon slings; and four large suspension clevises as shown in Figure 7-11. Position the trailer on the platform as shown in Figure 7-12.



(1) Wrap a 3-foot sling around each side of the drawbar. Make sure the slings pass between the drawbar and the lifting handle.

(2) Attach a large suspension clevis through the ends of each 3-foot sling.

(3) Attach an 11-foot sling to each front suspension clevis.

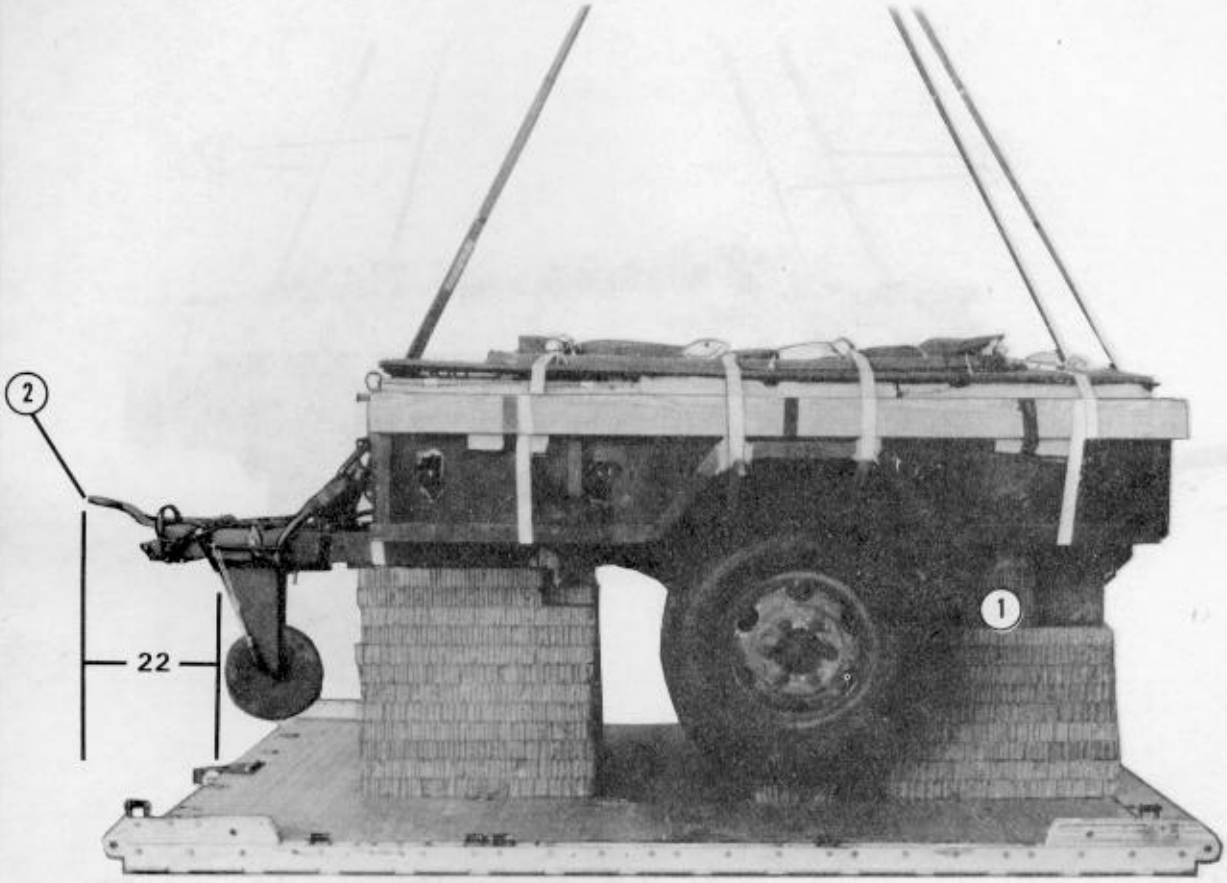
(4) Safely tie the caster wheel to the drawbar lifting handles with type III nylon cord.

(5) Wrap a 3-foot sling around the left frame at the rear of the trailer (not shown). Attach a large suspension clevis through the ends of the sling (not shown). Repeat step for the right side (not shown).

(6) Attach a 12-foot sling to each rear suspension clevis.

Figure 7-11. Lifting slings installed

Note: All measurements are given in inches.



(1) Place the trailer on the honeycomb with the axle centered on honeycomb stack 2 and the rear edge of the trailer flush with the front edge of the platform.

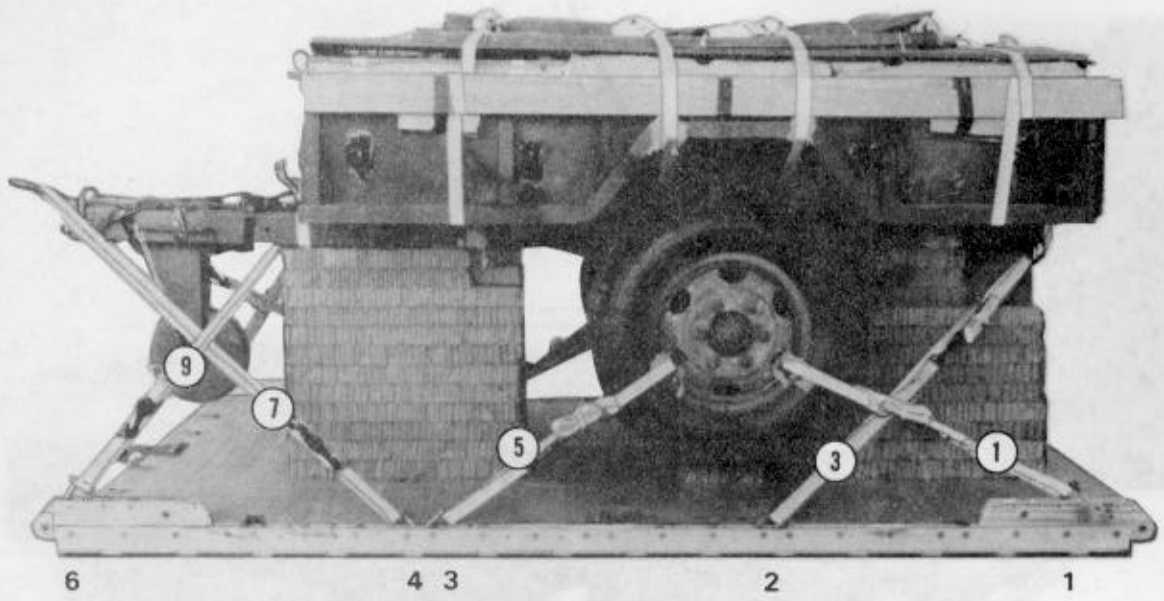
(2) Make sure the front edge of the lunette overhangs the rear of the platform by 22 inches.

(3) Remove the lifting slings (not shown).

Figure 7-12. Trailer positioned

7-9. Lashing Trailer

Lash the trailer to the platform using ten 15-foot tie-down assemblies according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-13.



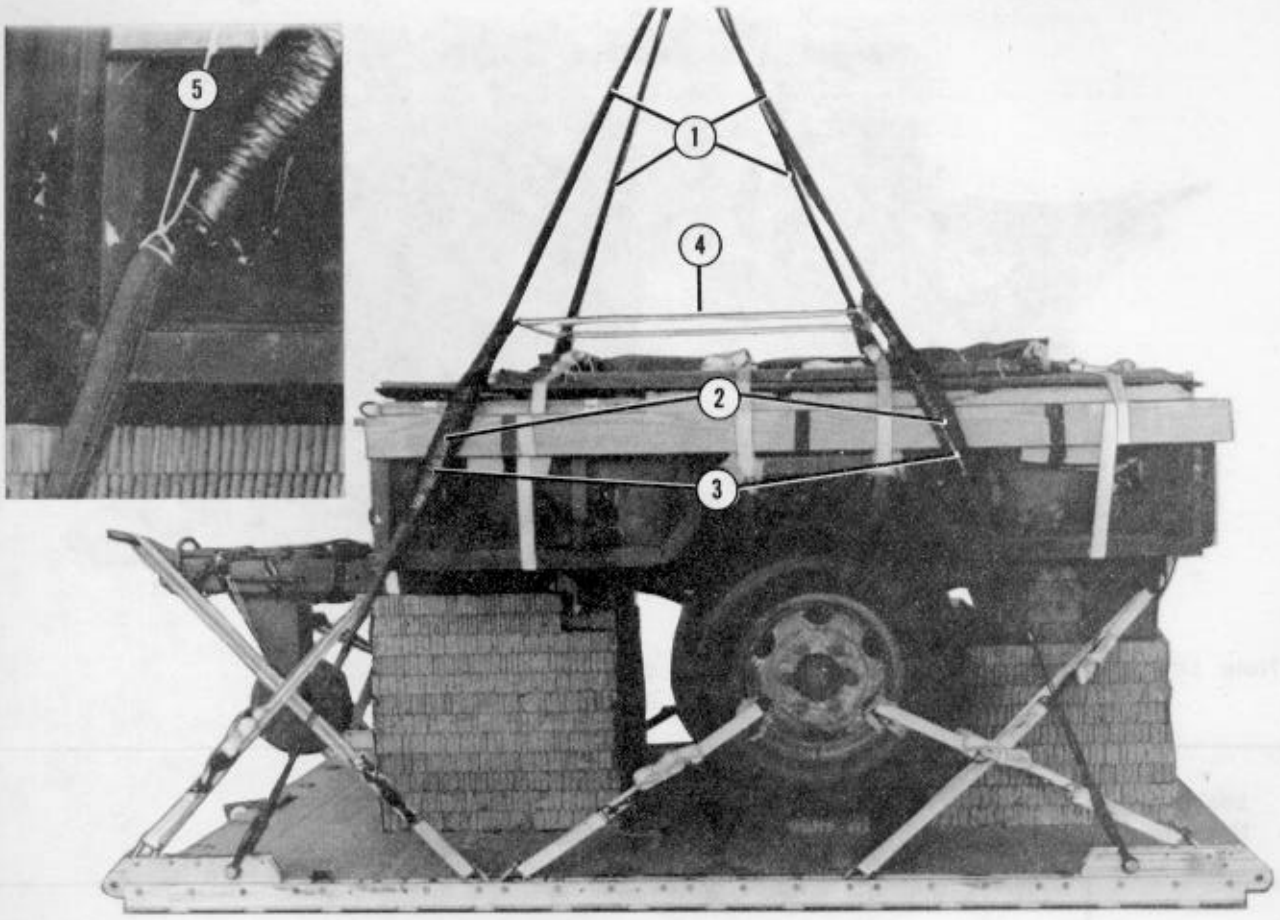
Note: Left, right, rear, and front refer to the trailer, NOT the platform.

Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through left wheel.
2	1A	Through right wheel.
3	2	Through left rear tie-down provision.
4	2A	Through right rear tie-down provision.
5	3	Through left wheel.
6	3A	Through right wheel.
7	4	Through lunette.
8	4A	Through lunette.
9	6	Through left front tie-down provision.
10	6A	Through right front tie-down provision.

Figure 7-13. Lashings 1 through 10 installed

7-10. Installing and Safetying Suspension Slings

Install and safety four large suspension clevises and four 12-foot (2-loop), type XXVI nylon webbing slings as shown in Figure 7-14.



(1) Attach a 12-foot sling to each tandem link using a large suspension clevis.

(2) Wrap a 10- by 30-inch piece of felt around each sling where it makes contact with the load. Tie the padding in place using type III nylon cord.

(3) Tape the padding using pressure-sensitive tape the full length of the felt, and extend the tape over on the suspension slings 6 inches on each end.

(4) Safety the slings with a deadman's tie according to FM 10-500-2/TO 13C7-1-5.

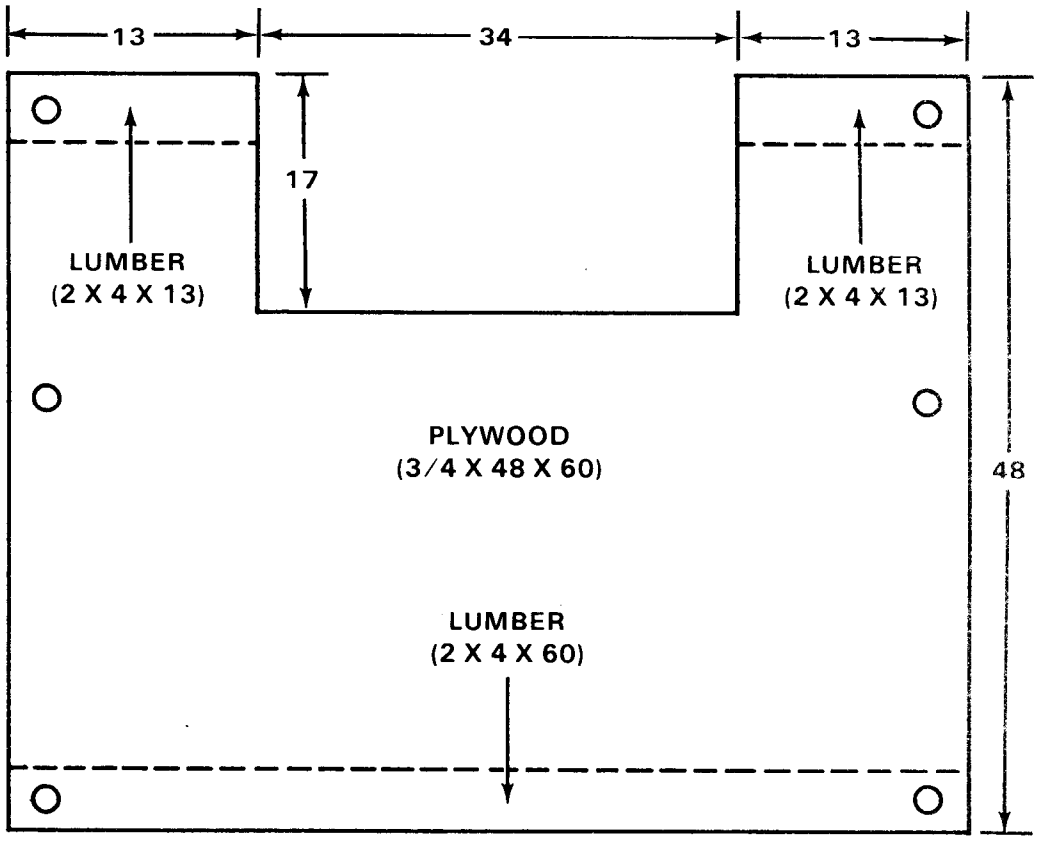
(5) Safety the suspension slings to the body protection boards using type III nylon cord.

Figure 7-14. Suspension slings installed and safetied

7-11. Building and Installing Parachute Stowage Platform

Build the parachute stowage platform as shown in Figure 7-15. Install the parachute stowage platform as shown in Figure 7-16.

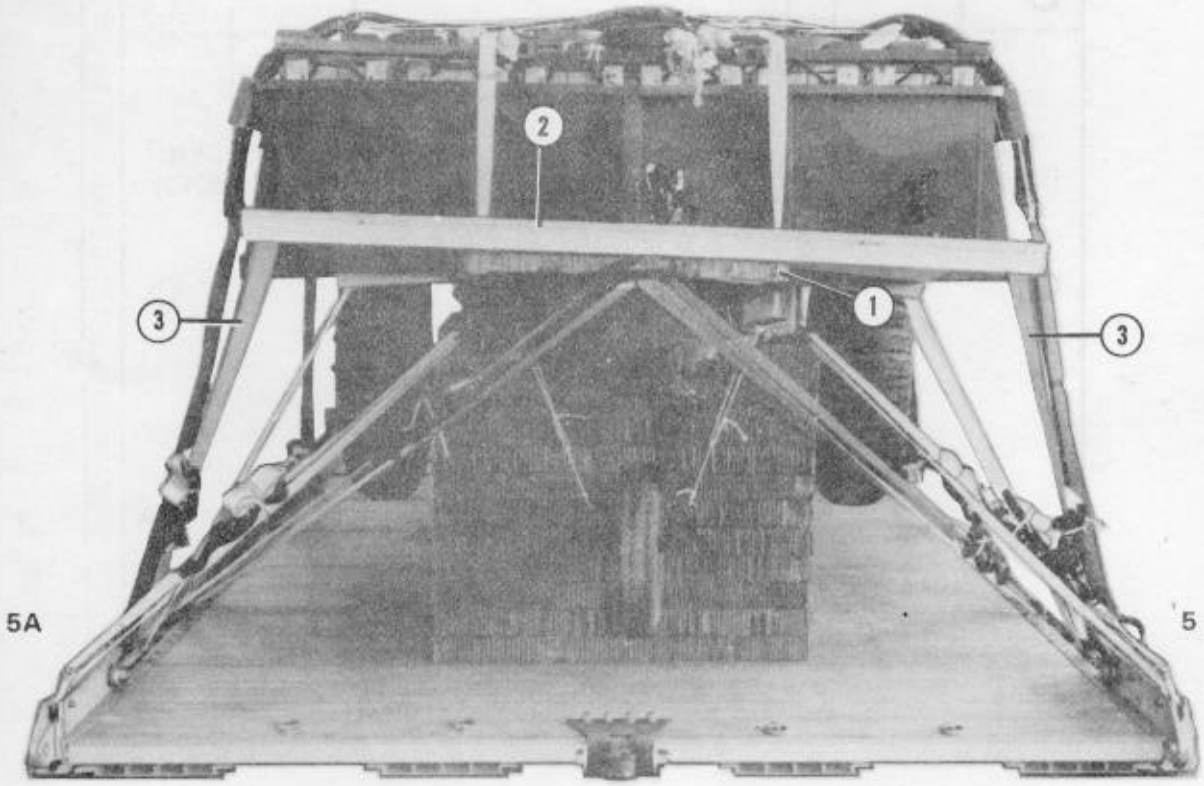
Notes: 1. This drawing is not drawn to scale.
2. All measurements are given in inches.



Step:

1. Cut a 3/4- by 48- by 60-inch piece of plywood.
2. Make a 17- by 34-inch cutout in the center of the front of the plywood.
3. Nail a 2- by 4- by 13-inch piece of lumber on each side of the front of the plywood using sixpenny nails. Nail a 2- by 4-by 60-inch piece of lumber on the rear of the plywood using sixpenny nails.
4. Drill six 2-inch holes as shown.

Figure 7-15. Parachute stowage platform built



(1) Center a 26- by 36-inch piece of honeycomb on the drawbar.

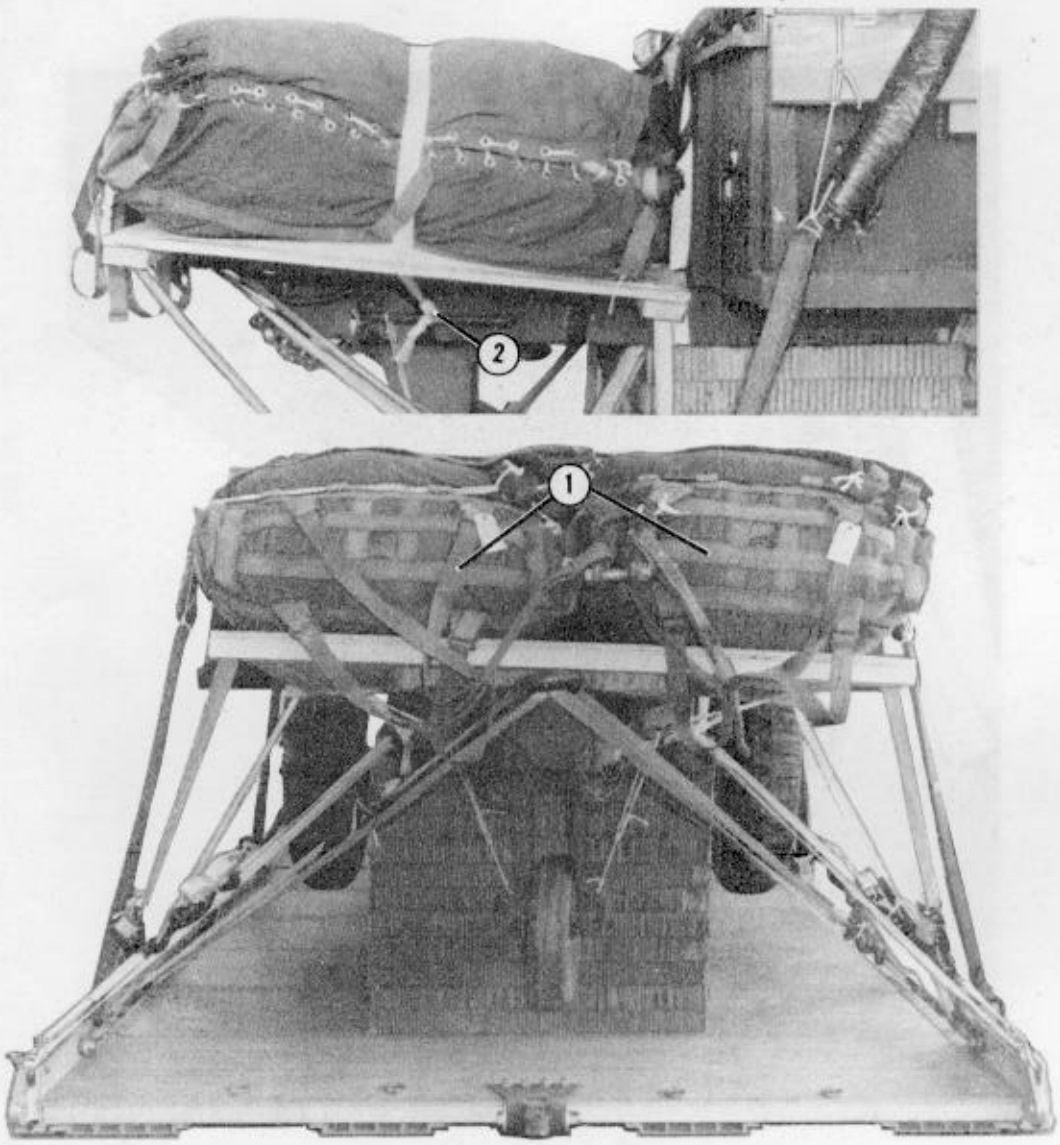
(2) Set the parachute stowage platform on top of the honeycomb.

(3) Lash the parachute stowage platform to clevises 5 and 5A with two 15-foot lashings.

Figure 7-16. Parachute stowage platform installed

7-12. Stowing and Securing Cargo Parachutes

Stow two G-11B cargo parachutes on the parachute stowage platform according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-17.



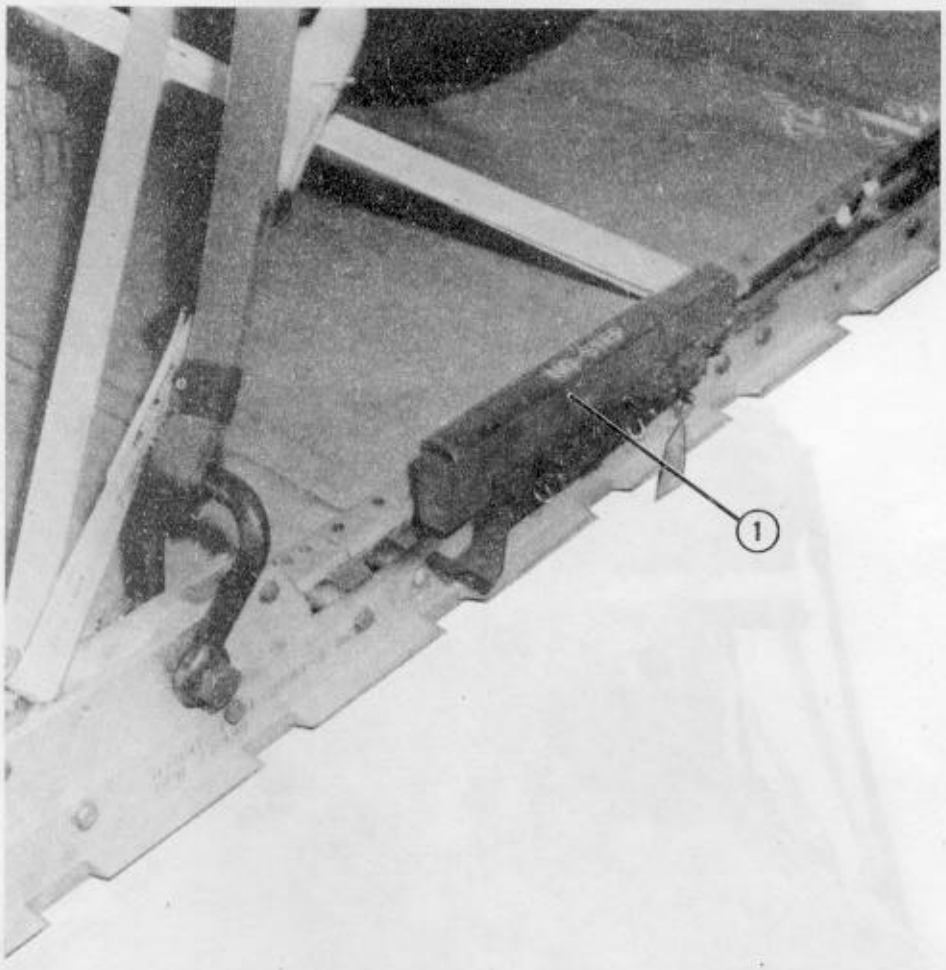
(1) Prepare and position two G-11B cargo parachutes on the parachute stowage platform according to FM 10-500-2/TO 13C7-1-5.

(2) Install a cargo parachute restraint strap according to FM 10-500-2/TO 13C7-1-5. Secure the restraint strap to the drawbar lifting handle.

Figure 7-17. Cargo parachute stowed and secured

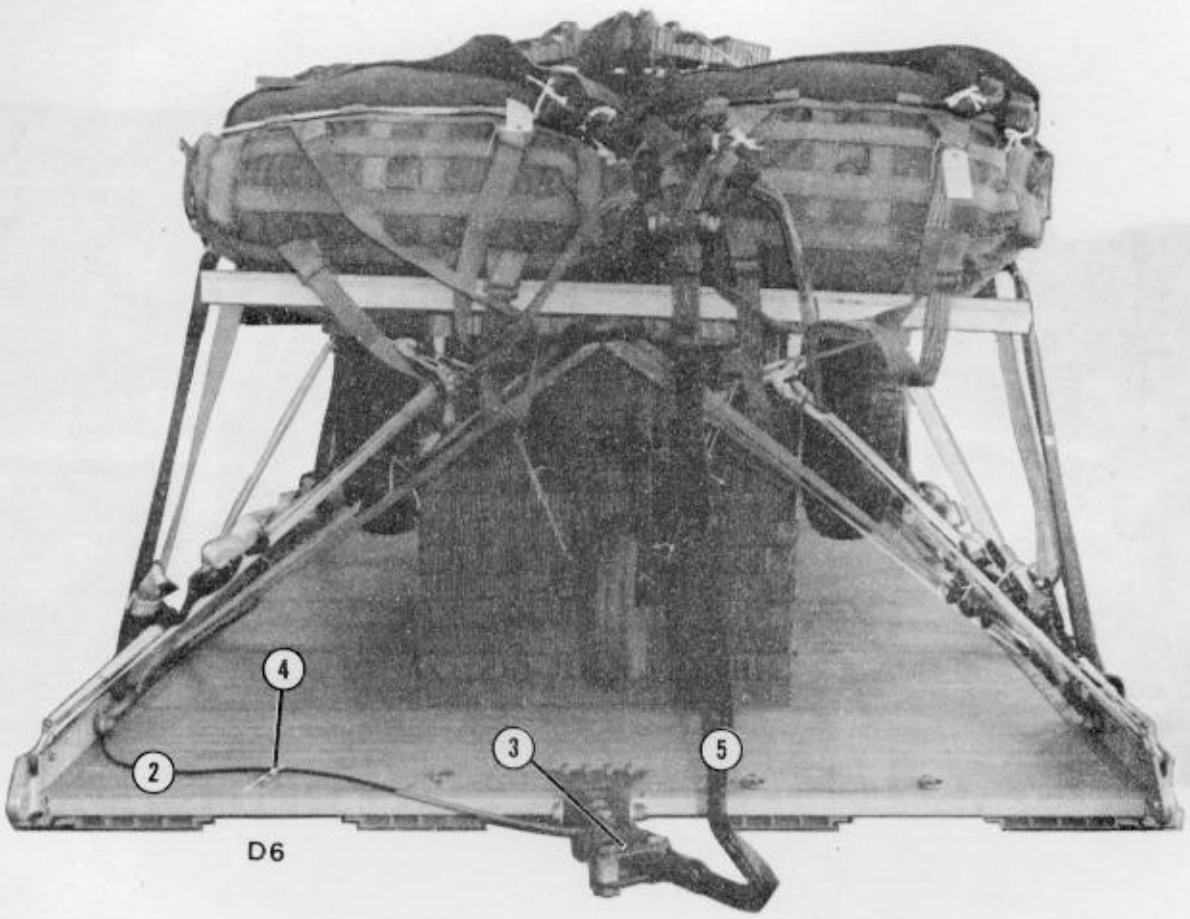
7-13. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-18.



(1) Install the EFTC mounting bracket to the front mounting holes on the left platform rail. Install the actuator to the EFTC mounting brackets according to FM 10-500-2/TO 13C7-1-5.

Figure 7-18. Extraction system installed



(2) Attach a 12-foot release cable to the actuator.

(3) Install the latch assembly to the extraction bracket according to FM 10-500-2/TO 13C7-1-5, and attach the cable.

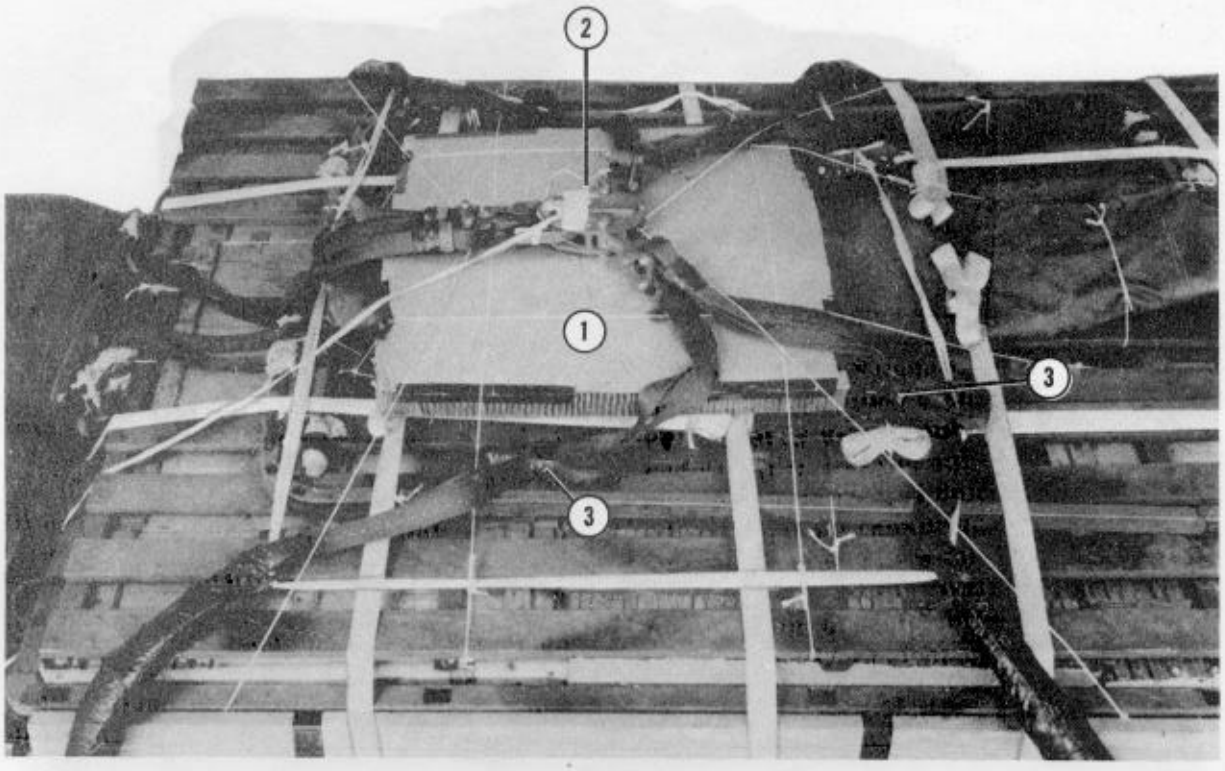
(4) Safety the release cable to tie-down ring D6 and according to FM 10-500-2/TO 13C7-1-5.

(5) Attach a 9-foot (2-loop), type XXVI nylon webbing sling as a deployment line to the load according to FM 10-500-2/TO 13C7-1-5.

Figure 7-18. Extraction system installed (continued)

7-14. Installing Parachute Release

Install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-19.



(1) Place a 36- by 36-inch piece of honeycomb on top of the load, and secure it with type III nylon cord.

(2) Prepare and install the M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5. Center the release assembly on top of the honeycomb. Secure the release to the paulin hooks on the side of the trailer with type III nylon cord.

(3) S-fold the slack in the suspension slings, and tie the folds with type I, 1/4-inch cotton webbing.

Figure 7-19. Parachute release installed

7-15. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table found in FM 10-500-2/TO 13C7-1-5.

7-16. Placing Extraction Parachute

Select the extraction parachute and extraction parachute line needed using the extraction parachute and extraction line requirements table found in FM 10-500-2/TO 13C7-1-5.

7-17. Marking Rigged Load

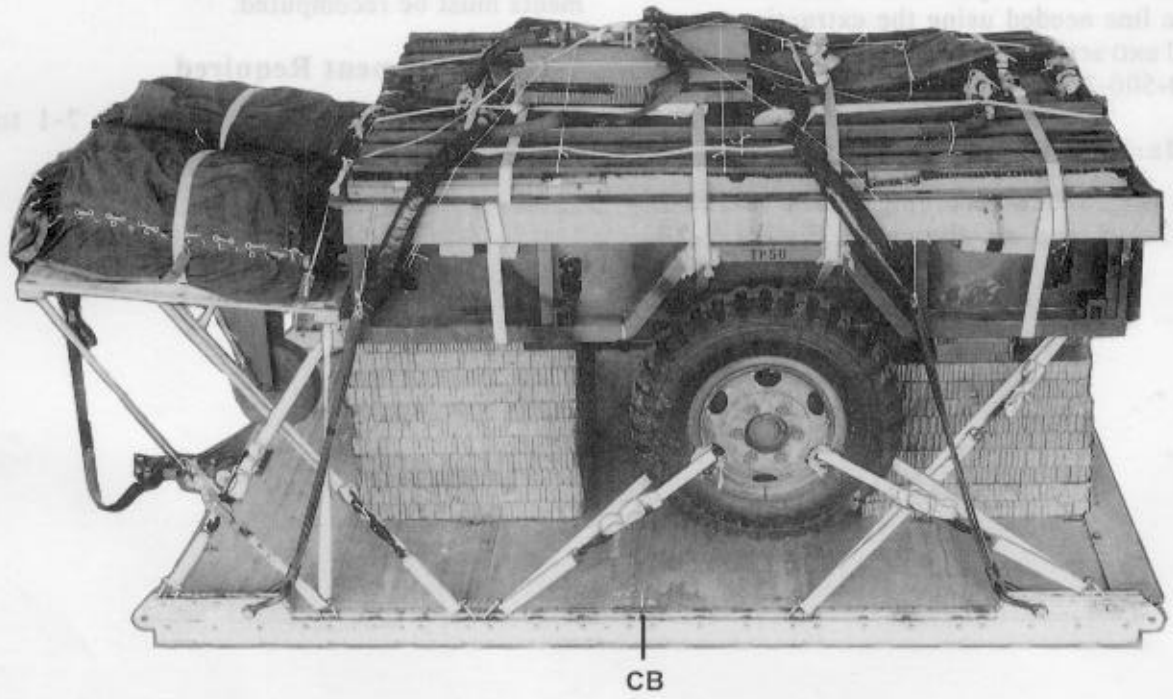
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 7-20. Complete the Shipper's Declaration for Dangerous Goods, and securely attach it to the load. Indicate on the Shipper's Declaration for Dangerous Goods that the load has been prepared according to AFJAM 24-204/TM 38-250. If the load varies from the one shown, the weight, height, tip off curve, CB and parachute requirements must be recomputed.

7-18. Equipment Required

Use the equipment listed in Table 7-1 to rig this load.

CAUTION

Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



RIGGED LOAD DATA

Weight: Load shown	7,360 pounds
Maximum load allowed	8,080 pounds
Height	81 inches
Width	108 inches
Length	170 1/2 inches
Overhang: Front (nose bumper	4 1/2 inches
Rear (parachute)	22 inches
CB (from front edge of platform)	72 inches
Extraction System	EFTC

Figure 7-20. The 1 1/2-ton trailer rigged on a type V platform for low-velocity airdrop.

Table 7-1. Equipment required for rigging the 1 1/2-ton trailer on a type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
3990-00-937-0272	Binder, load, 10,000-lb	6
	Clevis, suspension:	
4030-00-090-5354	1-in (large)	10
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer w 12-ft cable	1
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb	12
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction:	
1670-01-064-4452	60-ft (1-loop), type XXVI nylon webbing	1
1670-01-107-7651	140-ft (3-loop), type XXVI nylon webbing	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing	1
	Link assembly:	
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(2)
5310-00-232-5165	Nut, 1-in, hexagonal	(2)
1670-00-003-1954	Plate, side, 5 1/2-in	(2)
5365-00-007-3414	Spacer, large	(2)
1670-00-783-5988	Type IV	1
	Lumber	
5510-00-220-6146	2- by 4- by 13-in	2
5510-00-220-6146	2- by 4- by 60-in	1
5510-00-220-6148	2- by 6- by 120-in	2
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb	
	3- by 36- by 96-in:	5 sheets
	4- by 11-in	(2)
	7- by 11-in	(4)
	12- by 48-in	(8)
	14- by 36-in	(18)
	18- by 24-in	(6)
	26- by 36-in	(1)
	36- by 36-in	(1)
	36- by 40-in	(21)
	36- by 54-in	(2)
	36- by 74-in	(2)
	Parachute:	
1670-01-016-7841	Cargo, G-11B	2
	Cargo, extraction:	
1670-00-052-1548	15-ft	1
1670-00-687-5458	22-ft	1

Table 7-1. Equipment required for rigging the 1 1/2-ton trailer on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	Platform, AD, type V, 12-ft	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	(12)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link	(4)
5530-00-128-4981	Plywood, 3/4-in:	
	12- by 48-in	1
	48- by 60-in	1
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extensions:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6301	3-ft (2-loop), type XXVI nylon webbing	4
1670-01-063-7760	11-ft (2-loop), type XXVI nylon webbing	2
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	2
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
1670-00-040-8219	Strap, parachute release, multicut comes w 3 knives	1
8305-00-074-5124	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	24
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required